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Abstract

Experiments were conducted on airfoil NAL 21463 in the 1.5m low speed wind tunnel to provide the required data for the design of the NAL Regional Transport Aircraft (RTA). Measurements were made in the freestream velocity range of 25-45 m/s and incidence angle range of -6 to 18° consisting of surface static pressure and wake total pressure using a wake rake. Chemical sublimation flow visualization technique and hot-film anemometry were used to detect transition location.

The experiments provide valuable data for the airfoil design and compare reasonably well with the results from NWTF at IIT Kanpur and from computations.